

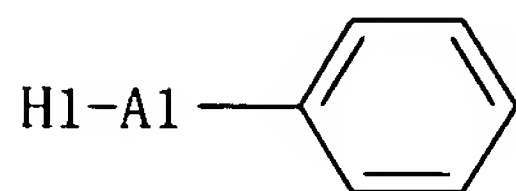
IN THE CLAIMS

Please amend the claims as follows:

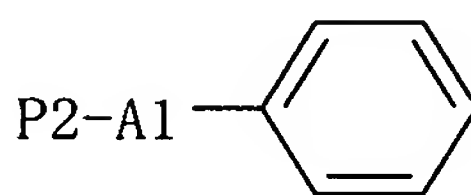
Claims 1-10 (Canceled).

Claim 11 (New): A method for producing a picolinic acid compound, which comprises

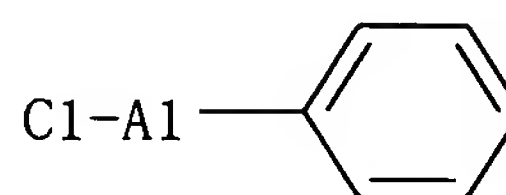
reacting an aromatic compound that contains a phenyl group and is represented by formula (I), (II), or (III):



(I)



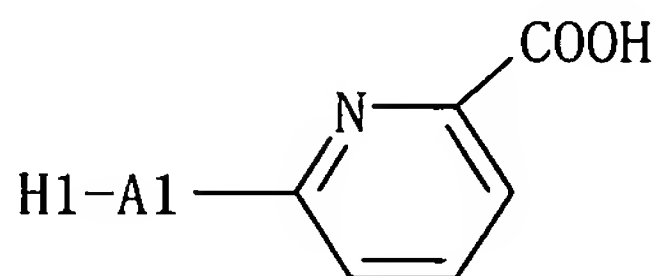
(II)



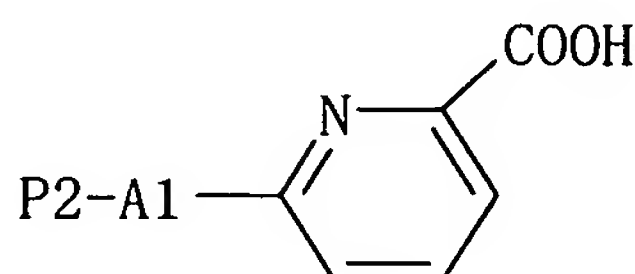
(III)

wherein, H1 is an optionally substituted heterocyclic group, A1 is a single bond or an optionally substituted C₁₋₄ alkylene group or alkenylene group, P2 is an optionally substituted phenyl group, and C1 is an optionally substituted cyclic hydrocarbon group other than a phenyl group, and where formula II does not represent diphenylacetylene

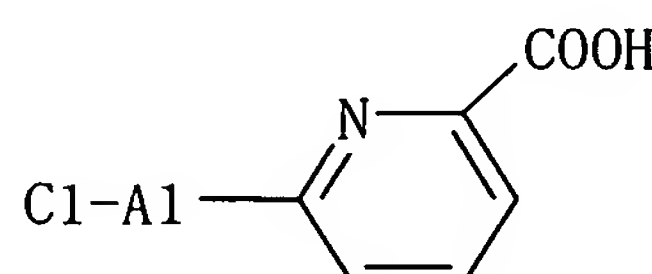
with aromatic ring dioxygenase, aromatic ring dihydrodiol dehydrogenase, and aromatic ring diol dioxygenase, to obtain a picolinic acid compound (I'), (II'), or (III'):



(I')



(II')



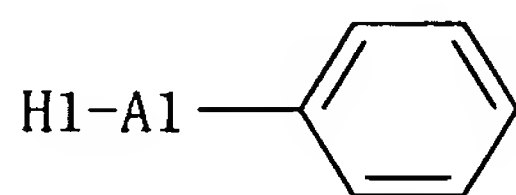
(III')

wherein H1, A1, P2, and C1 are as defined above.

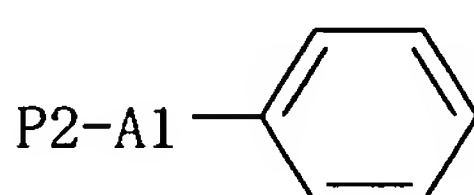
Claim 12 (New): The method according to claim 11, wherein said aromatic ring dioxygenase, aromatic ring dihydrodiol dehydrogenase, and aromatic ring diol dioxygenase are those derived from biphenyl-degrading bacteria or variants thereof or modified products obtained therefrom by molecular evolution engineering techniques.

Claim 13 (New): A method for producing a picolinic acid compound, which comprises

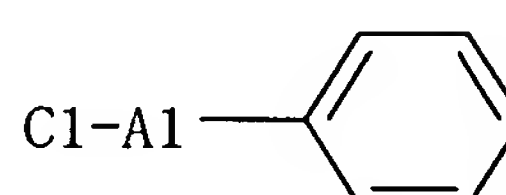
culturing a recombinant microorganism into which genes encoding aromatic ring dioxygenase, aromatic ring dihydrodiol dehydrogenase, and aromatic ring diol dioxygenase have been introduced in a medium containing a compound represented by formula (I), (II), or (III):



(I)



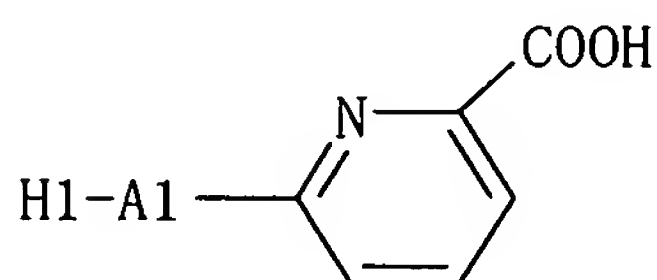
(II)



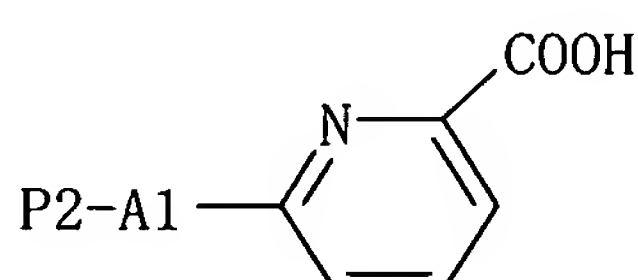
(III)

wherein H1 is an optionally substituted heterocyclic group, A1 is a single bond or an optionally substituted C₁₋₄ alkylene group or alkenylene group, P2 is an optionally substituted phenyl group, and C1 is an optionally substituted cyclic hydrocarbon group other than a phenyl group, and where the formula II does not represent diphenylacetylene

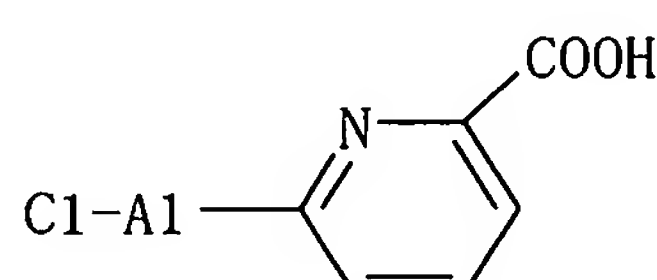
to obtain from the culture product or the microorganism a picolinic acid compound (I'), (II') or (III'):



(I')



(II')



(III')

wherein H1, A1, P2, and C1 are as defined above.

Claim 14 (New): The method according to claim 13, wherein said genes encoding aromatic ring dioxygenase, aromatic ring dihydrodiol dehydrogenase, and aromatic ring diol dioxygenase are those derived from biphenyl-degrading bacteria or variants thereof or modified products obtained therefrom by molecular evolution engineering techniques.

Claim 15 (New): The method according to claim 13, wherein the recombinant microorganism is recombinant *Escherichia coli*.

Claim 16 (New): The method according to claim 11, wherein said compound represented by the formula (I), (II), or (III) is selected from the group consisting of flavanone, flavone, 6-hydroxyflavanone, 6-hydroxyflavone, 7-hydroxyflavanone, 2-phenylquinoline, 2-phenylbenzoxazole, biphenyl, (trans-)chalcone, 3-phenyl-1-indanone, and 2-phenylnaphthalene.

Claim 17 (New): The method according to claim 11, wherein a large subunit of aromatic ring dioxygenase is a protein selected from protein (a) and (b):

- (a) a protein comprising the amino acid sequence shown in SEQ ID NO: 2; and
- (b) a protein comprising a sequence derived from the amino acid sequence shown in SEQ ID NO: 2 by deletion, substitution, or addition of 1 or several amino acids and having functions of the large subunit of aromatic ring dioxygenase.

Claim 18 (New): A protein (a) or (b) shown below:

- (a) a protein comprising the amino acid sequence shown in SEQ ID NO: 2; or
- (b) a protein comprising a sequence derived from the amino acid sequence shown in SEQ ID NO: 2 by deletion, substitution, or addition of 1 or several amino acids and having functions of a large subunit of aromatic ring dioxygenase.

Claim 19 (New): A gene encoding the following protein (a) or (b):

- (a) a protein comprising the amino acid sequence shown in SEQ ID NO: 2; or
- (b) a protein comprising a sequence derived from the amino acid sequence shown in SEQ ID NO: 2 by deletion, substitution, or addition of 1 or several amino acids and having functions of a large subunit of aromatic ring dioxygenase.

Claim 20 (New): A gene comprising DNA consisting of the nucleotide sequence
shown in SEQ ID NO: 1.